

WE CLAIM:

1. A system for etching a wafer having a conductive front surface, the system comprising:
 - a cathode assembly having at least two cathode members, wherein each cathode members has the ability to receive its own power ; and
 - 5 a first etching solution contacting said at least two cathode members, wherein the cathode members are electrically isolated from one another.
2. The system of Claim 1, wherein the at least two cathode members comprises a first and a second cathode members.
3. The system of Claim 2, wherein said first cathode member operatively interfaces a first part of said conductive surface of said wafer.
4. The system of Claim 3, wherein said second cathode member operatively interfaces a second part of said conductive surface of said wafer.
5. The system of Claim 4, wherein said first part comprises a peripheral area of said wafer.
6. The system of Claim 5, wherein said second part comprises a center area of said wafer.
7. The system of Claim 1, further comprising a mask plate disposed between said wafer and at least one of said first and second cathode members.
8. The system of Claim 7, wherein said mask plate is disposed

9. The system of Claim 8, wherein said mask plate comprises at least one opening that transports said first etching solution to said first and second part of said conductive surface.

10. The system of Claim 9, wherein said first and second cathode members each comprise at least one channel that transports said first etching solution to said mask.

11. The system of Claim 10, wherein said first etching solution is delivered to said first cathode member through a first cathode cup and to said second cathode member through a second cathode cup wherein said first and second cathode cups are electrically isolated from one another.

12. The system of Claim 11, wherein said first and second cathode cups are in fluid communication with a first storage tank containing said first etching solution.

13. The system of Claim 12, wherein flow rate of said first etching solution through said first cathode member and flow rate of said first etching solution through said second cathode member are the same.

14. The system of Claim 13, wherein flow rate of said first etching solution through said first cathode member and flow rate of said first etching solution through said second cathode member are different.

15. The system of Claim 11, wherein said first cathode cup is in fluid communication with said first storage tank and said second cup is in fluid communication with a second storage cup wherein said second storage tank contains a second etching solution.

16. The system of Claim 15, wherein etching abilities of said first and second etching solutions are different.

17. The system of Claim 15, wherein flow rate of said first etching solution through said first cathode member and flow rate of said second etching solution through said second cathode member are different.

18. The system of Claim 15, wherein flow rate of said first etching solution through said first cathode member and flow rate of said second etching solution through said second cathode member are the same.

19. A system for optionally depositing or removing a layer of a wafer, comprising:

- a mask plate opposed to said wafer;
- said mask plate having a plurality of openings that transport a
5 solution to said wafer;
- an electrode assembly having a first electrode member and a second electrode member;
- said first electrode member having a plurality of first channels that
operatively interface a first part of said wafer;
- 10 said first channels transport said solution to said mask;
- said second electrode member having a plurality of second channels that operatively interface a second part of said wafer; and
- said second channels transport said solution to said mask.

20. The system of Claim 19, wherein said electrode assembly comprises a cathode assembly, said first electrode member comprises a first cathode member, and said second electrode member comprises a second cathode member.

21. The system of Claim 20, wherein said solution comprises an electroetching solution.

22. The system of Claim 19, wherein said electrode assembly comprises an anode assembly, said first electrode member comprises a first anode member, and said second electrode member comprises a second anode member.

23. The system of Claim 22, wherein said solution comprises a deposition solution.

24. The system of Claim 19, wherein said first and second electrode members have differing shapes.

25. The system of Claim 19, wherein said first and second electrode members have the same shapes.

26. The system of Claim 25, wherein the first and second electrode members have a circular shape.

27. The system of Claim 26, wherein the first and second electrode members are concentrically disposed to one another.

28. The system of Claim 25, wherein the first and second electrode members have a rectangular shape.

29. The system of 28, wherein said first and second electrode members are disposed side-by-side to one another.

30. The system of Claim 19, wherein said first electrode member operatively interfaces a peripheral part of said wafer.

31. The system of Claim 30, wherein said second electrode member operatively interfaces a center part of said wafer.

32. A process for partially removing a conductive front surface of a semiconductor wafer having a conductive front surface, the process comprising the steps of:

- (a) positioning the conductive front surface above a cathode
5 assembly which comprises multiple cathode members;
- (b) providing an etch solution that wets said cathode members
and said conductive front surface;
- (c) connecting said multiple cathode members to multiple
power sources, wherein said multiple cathode members are substantially
10 electrically isolated from one another;
- (d) applying power to said cathode members from said multiple
power sources;
- (e) positioning a mask plate between said cathode assembly
and said conductive front surface of said wafer; and
- 15 (f) flowing said etch solution through said mask plate so that
said etch solution wets said conductive front surface.

33. The process of Claim 32, further comprising (g) controlling the etching at selected parts of said conductive front surface.

34. The process of Claim 33, wherein step (g) comprises directing, through said cathode members, said etch solution at said selected parts of the conductive front surface.

35. The process of Claim 34, wherein step (g) further comprises directing said etch solution to a peripheral part of said conductive front surface separately from directing said etch solution to a center part of the conductive front surface.

36. The process of Claim 35, wherein step (g) further comprises operatively interfacing selected cathode members with said selected parts of the conductive front surface.

37. A process for etching or depositing a layer of a semiconductor wafer, the process comprising the steps of:

- (a) flowing a solution through an electrode assembly which comprises a first electrode member and a second electrode member;
- 5 (b) transporting said solution from said electrode assembly and to a mask plate that interfaces said wafer;
- (c) wetting selected parts of said wafer with said solution; and
- (d) applying a current to said selected parts of said wafer.

38. The process of Claim 37, wherein step (c) further comprises operatively interfacing said first and second electrode members with said selected parts of said wafer.

39. The process of Claim 38, wherein step (c) further comprises directing said solution at said selected parts of said wafer.

40. The process of Claim 39, wherein said selected parts comprise a peripheral part and a center part.

41. The process of Claim 40, wherein step (c) further comprises

42. The process of Claim 41, wherein step (c) further comprises sequentially providing said current to said first and second electrode members.

43. The process of Claim 37, further comprising (e) one of contacting, sweeping, and polishing said wafer with said mask plate.

44. The process of Claim 37, wherein said electrode assembly comprises a cathode assembly.

45. The process of Claim 37, wherein said electrode assembly comprises an anode assembly.